

CHAPTER FOUR

ENGINE

The engine is an air-cooled, 4-stroke, single cylinder engine with a single overhead camshaft. The crankshaft is supported by 2 main ball bearings in a vertically split crankcase.

The camshaft is chain-driven from the timing sprocket on the right-hand side of the crankshaft and operates rocker arms that are individually adjustable.

Engine lubrication is by wet sump with the oil pump located on the right-hand side of the engine next to the clutch. The oil pump delivers oil under pressure throughout the engine and is driven by a gear on the crankshaft.

This chapter contains information for removal, inspection, service and reassembly of the engine. Although the clutch and transmission are located within the engine, they are covered in Chapter Five and Chapter Six to simplify this material.

Table 1 provides complete specifications for the engine and **Table 2** lists all of the engine torque specifications. **Table 1** and **Table 2** are located at the end of this chapter.

Before beginning work, re-read Chapter One of this book. You will do a better job with this information fresh in your mind.

Throughout the text there is frequent mention of the right-hand and left-hand side of the engine. This refers to the engine as it sits in the vehicle's frame, not as it sits on your workbench. The right- and left-hand refers to a rider sitting on the seat facing forward.

ENGINE PRINCIPLES

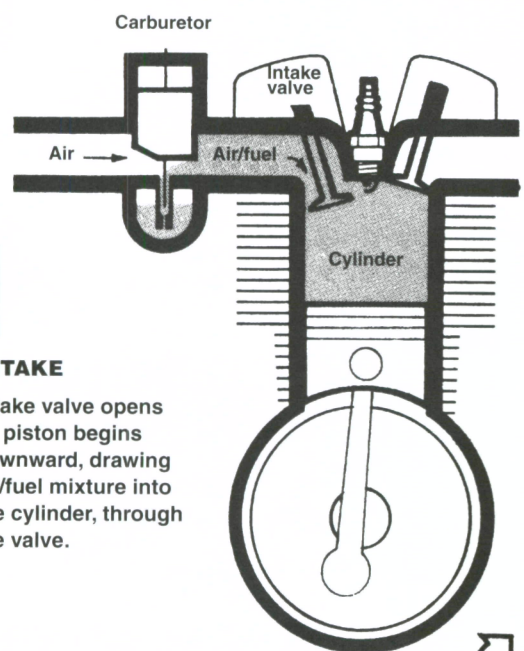
Figure 1 explains how the engine works. This will be helpful when troubleshooting or repairing the engine.

1

FOUR-STROKE OPERATING PRINCIPLES

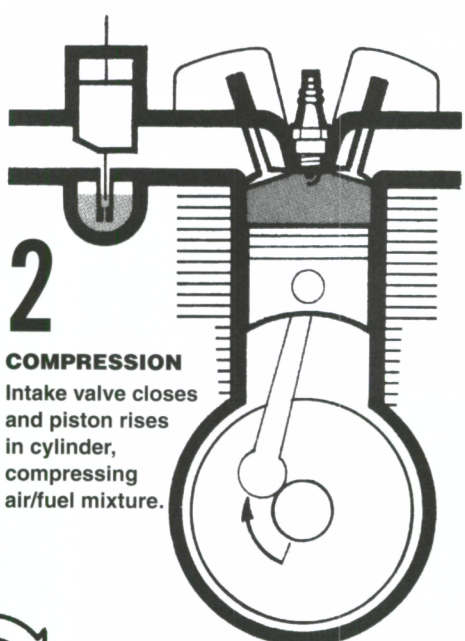
1
INTAKE

Intake valve opens as piston begins downward, drawing air/fuel mixture into the cylinder, through the valve.



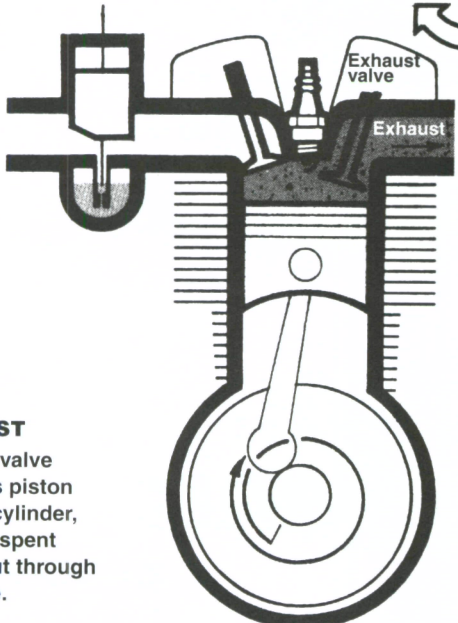
2

COMPRESSION
Intake valve closes and piston rises in cylinder, compressing air/fuel mixture.



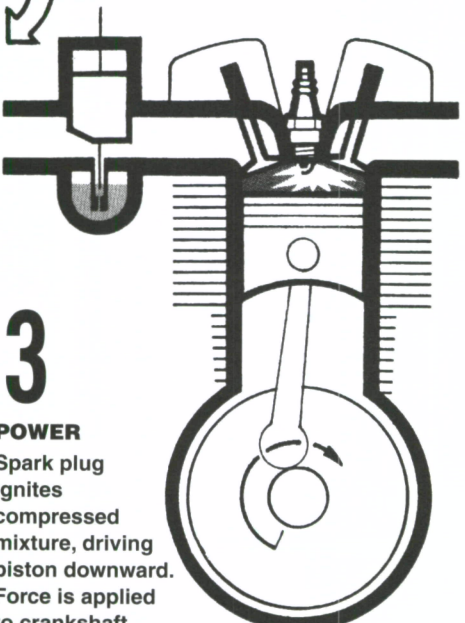
4

EXHAUST
Exhaust valve opens as piston rises in cylinder, pushing spent gases out through the valve.



3

POWER
Spark plug ignites compressed mixture, driving piston downward. Force is applied to crankshaft causing it to rotate.



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